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DEVELOP NEW EQUIPMENT, MACHINE TOOLS; USE NEW HARDENING, GRINDING PROCESSES

STREAMLINE PATTERNMAKING PROCESS -- Moscow, Moskovskaya Pravda, 10 May 51

For many years patternmaking has been a complex and labor-consuming process.

Experimental work has been carried on at the Moscow Stankolit Plant's laboratory to simplify, accelerate, and improve the quality of pattern production.

Among the advancements made is a simple machine designed by Poskacheyev for putting core boxes together. Core boxes for the entire shop are now made on one machine.

Multiplicity of designs has been eliminated by the development of strict standards, making the production of core boxes seven or eight times faster.

Poskacheyev is striving to centralize the manufacture of large basic patterns on a larger machine the same type.

Another machine designed by Poskacheyev is a segment-facing machine (segmentno-tortsevochnyy). The use of this machine eliminates the need for a planing tool in making cylindrical patterns and core boxes.

The plant has just started the manufacture of two new facing machines. This type of inexpensive and simple machine will find application at pattern shops of pump and compressor and hydroturbine plants where, more frequently than not, patterns and core boxes are made from segments. It will also be of great value to the construction industry where shaped doors and frames are made.

The new technology of building complete patterns with the use of simple and inexpensive machine tools designed by Poskacheyev will find wide dissemination among pattern shops throughout the Soviet Union.

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DESIGN, TEST ELECTROTHERMAL MACHINE -- Tashkent, Pravda Vostoka, 15 Apr 51

Engineers of the Ministry of Machine-Tool Building have designed an original electrothermal machine for enterprises of the abrasive industry. The process of hardening steel press molds for production of abrasives will be accelerated many times on this aggregate.

The new machine is compact and has a simple control mechanism. Its testing gave good results.

HARDEN PRESS MOLDS BY ELECTRIC-SPARK METHOD -- Leningradskaya Pravda, 30 Mar 51

A special section for electric-spark tool hardening has been organized at the Leningrad Il'ich Abrasives Plant. Two lathes adapted for mechanized electrical hardening and a semiautomatic, the first in the USSR, for hardening press molds for abrasive wheels, are in operation at this plant. This entire section is serviced by one worker.

Worn press molds are sent here daily from the shops. By the electric-spark method, a thin layer of hard alloy is deposited on them. The parts which have been restored by this method are again used in production.

The section was organized 2 months ago. Not one press mold has become defective during this time. Formerly, a press mold required recasting after 50 hours of operation. The consumption of alloy steel for the manufacture of press molds has been cut three times.

The section for electric-spark tool hardening will save the plant more than 600,000 rubles per year.

TO SERIES-PRODUCE ELECTRIC SCROLL SAW -- Leningradskaya Pravda, 12 Apr 51

A great many changes have taken place in recent times at the Vyborg Elektroinstrument (Electric Tool) Plant. High-frequency current and electric-spark hardening and many other technical innovations are being employed at the shops.

Hardening parts by means of high-frequency electric currents has increased productivity nearly three times in the processing of electric drills. Electric-spark hardening of metals has increased considerably the durability of cutting tools manufactured in the tool shop.

Series production of a new type of products, the electric scroll saw, is being perfected.

WALKING CONVEYER COMBINES MOVING AND STATIONARY ASSEMBLY -- Frunze, Sovetskaya Kirgiziya, 4 Apr 51

Zavadskiy, a designer at the Khar'kov Machine-Tool Plant imeni Molotov, has developed a walking (shagayushchiy) conveyer for machine assembly. The first such conveyer was used in the assembly of grinding machines and proved to be highly practical. Recently, such a conveyer was installed at the Gor'kiy Milling Machine Plant.

In principles of operation, the walking conveyer is basically different from existing installations being used in machine building. The machine-tool parts or other machine parts being assembled are arranged along the conveyer line on metal blocks installed on the shop floor. Hydraulic jacks, arranged in a grove in the floor, lift the machine tools 2-2.5 centimeters from the floor at predetermined

time intervals [after each assembly stage] and another mechanism moves them forward to the next assembly stage. After that, the machine tools are again lowered to the floor.

The new method combines all the advantages of conveyer and stationary assembly. It is rapid and highly accurate.

Another such mechanism is slated for installation at the Dmitrov Milling Machine Plant during 1951.

Yerevan, Kommunist, 13 Apr 51

A walking conveyer [of the type described above] is scheduled for installation at the Dneprovskiy Milling Machine Plant during 1951.

PRODUCE NEW HIGH-DUTY MACHINE TOOLS -- Moscow, Komsomol'skaya Pravda, 25 Apr 51

An unusual horizontal-boring machine developed by designers, engineers, and Stakhanovites at the Leningrad Machine-Tool-Building Plant imeni Sverdlov occupies an area of 50 square meters.

This machine is designed for machining large parts, and can bore holes in blanks weighing up to 15 tons and more at a speed of from 15 to 1,500 revolutions per minute. An optical device mounted on the headstock gives a reading with an accuracy of 0.01 millimeter.

Such high-duty machine tools have not been built by any other plant in the world.

The following designers and engineers have been awarded the Stalin Prize for developing this new horizontal-boring machine: M. El'yasberg, M. Verkholat, A. Razygrayev, V. Ozolin, and B. Mezheritskiy.

There is also a new automatic for machining octahedral bolt heads. Such work was formerly performed by milling-machine operators. Not more than 200 bolts were machined per shift. The productivity of the automatic is 3,000 bolts per hour.

MODERNIZE "UNION" CYLINDRICAL GRINDING MACHINE FOR HIGH-SPEED WORK -- Leningradskaya Pravda, 19 Apr 51

The "Union" cylindrical grinding machine has been modernized at the Leningrad Plant imeni Sverdlov. High-speed grinding of large shafts up to 3 meters in length can be performed on this machine. As a result, productivity has doubled and the quality of machining has improved.

EQUIP MACHINE TOOLS WITH NEW CHIP BREAKER -- Moscow, Trud, 21 Apr 51

High-speed machine tools at the Leningrad Plant imeni Sverdlov are equipped with new, shielded, chip breakers designed by Anatolyy Anton. This chip breaker possesses an unusual quality: the faster the cutting speed, the smaller the chips.

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FAIL TO PUT NEW DIAMOND-BORING MACHINE INTO PRACTICAL USE -- Yerevan, Kommunist, 22 May 51

At the end of 1949, the idea of developing and manufacturing a diamond-boring machine was considered at the Yerevan Machine-Tool-Building Plant imeni Dzerzhinskiy. Such a machine would replace hand scraping, increase labor productivity, and increase the quality of bronze bearings.

At the beginning of 1950, plans for materializing this idea were laid. According to these plans, the machine should have been completed by 15 April 1950. However, certain difficulties were encountered which delayed its completion. In a short time, the frame of the diamond-boring machine began to gather dust.

This machine was again mentioned in the fall of 1950. Schedules were set up, and a target date was established. At the end of 2 months, it was almost finished. It was subjected to various kinds of tests, and again was abandoned.

In 1951, the machine was mentioned once more. It was rolled out of the tool shop and placed in one of the passageways of the machine shop. Later it was moved to the assembly shop where it is still standing.

It is permissible to ask who is at fault for investing tens of thousands of rubles into dead capital goods? Whose fault is it that a fine and useful technical idea born a year and a half ago has not yet found practical application? -- V. Kireyev, fitter, Plant imeni Dzerzhinskiy

SEMIAUTOMATIC REPLACES 4 TURRET LATHES -- Moscow, Moskovskiy Komsomolets, 15 May 51

A semiautomatic designed by Vladimir Utkin and members of his brigade in cooperation with Ovechkin, engineer, has been manufactured for machining micrometer frames.

This semiautomatic has replaced four turret lathes and four operators at the Moscow Kalibr Plant.

CONVERT GRINDING MACHINES TO HIGH-SPEED METHODS -- Moscow, Moskovskaya Pravda, 20 Apr 51

Until very recently, even the most experienced machine-tool operators at the Moscow Kalibr Plant were not able to exceed a speed of 25-30 meters per minute when grinding parts. Stakhanovites, foremen, and technologists of the enterprise, together with scientific workers of the All-Union Scientific Research Institute of Abrasives and Grinding (VNIIASh), resolved to convert some of the grinding machines to higher production rates.

A special ceramic bonded grinding wheel with increased wear-resistance, the formula for which was developed by co-workers of the VNIIASh, was mounted on one of the circular grinding machines. In the estimation of the designers, this wheel should withstand the highest of speeds. In addition, the transmission was reinforced, the motor readjusted, and the grinding wheel covered with a special sheathing.

The first high-speed-grinding experiments gave good results. The speed of grinding reached 50 meters per second, and the finish of the ground part was improved by two grades. It was later discovered that the new grinding wheel possesses another valuable property. It requires truing only once per shift instead of the usual three or four times. Truing is done with a diamond substitute.

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The first section for high-speed grinding has been set up at the plant, and three machine tools have been converted to the new method of operation. Three more machines will be converted in the next few days.

START SERIES PRODUCTION OF NEW PLANER -- Leningradskaya Pravda, 5 Apr 51

The Minsk Machine-Tool-Building Plant imeni Voroshilov started series production of a new type of planing machine a few days ago.

MORE THAN DOUBLES OUTPUT OF MACHINE TOOLS -- Moscow, Izvestiya, 18 Apr 51

In 1950, the Minsk Machine-Tool-Building Plant imeni Voroshilov produced more than twice as many machine tools as in 1949.

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